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Introduction

1. This report presents the general findings of an inspection of the provision for the education of those who attend establishments of further and higher education in England and Wales to undertake part-time courses of advanced further education in seven vocational areas: business studies, computing and mathematics, construction, engineering, health and social services, hotel and catering, and science. At a time when the organisation and funding of public sector higher education are the focus of national interest it was thought timely to undertake an inspection of part-time advanced further education courses as they represent a long-established and traditional mode of further education. More detailed reports on these vocational areas will be published separately but the specific messages about each one are presented in Appendix 1 to this report.*

2. Advanced courses include those leading to the higher national diplomas and certificates of the Business Technician Education Council (BTEC), the Diploma in Higher Education, degrees, some professional qualifications and postgraduate degrees, diplomas and certificates. To qualify for advanced courses students are normally required to have obtained passes at Advanced (A-) level in the General Certificate of Education (GCE) examination or its equivalent.

3. This report is based upon the knowledge of HMI working in the field of further and higher education and, in particular, on evidence obtained during an inspection of part-time advanced further education courses in 48 colleges during the summer and autumn terms, 1984. The purpose of the inspection was to compare the provision of this type of education in various settings and to comment on its effectiveness.

4. In session 1983-84 over 400,000 students enrolled on advanced further education courses in public sector institutions in England and Wales. Of these, 176,000 were on part-time courses. Although the 30 polytechnics provided for 53% of the total enrolment of all advanced further education courses only 38% of the part-time students are enrolled by them. The remaining 109,000 part-time students on advanced courses are in over 300 establishments of further and higher education and form only a small fraction of the total enrolment of these institutions as Table 1 illustrates.

Public sector institutions provide for over half the students undertaking courses of higher education in England and Wales.

5. The range of subjects offered in public sector education is considerable. Most part-time advanced further education is in the areas of business studies and engineering and technology (Figure 1, Appendix 3).

6. There are three main strands of award-bearing provision in part-time advanced further education: part-time degrees validated by the Council for National Academic Awards (CNAA); Higher National Certificates or Diplomas validated by the Business & Technician Education Council (BTEC); and a range of courses preparing students for the examinations of professional bodies such as the Royal Society of Chemistry, the Institute of Bankers and the accountancy bodies. Part-time degrees are provided mainly in the polytechnics and those institutions with a substantial proportion of advanced further education, and are of four or five years' duration. Professional body courses which are more widely distributed have few common features. For example, the course leading to the Graduate Membership of the Royal Society of Chemistry has a content and structure similar to that of an honours degree, and requires three years part-time study after the acquisition of a BTEC higher certificate. Professional body courses in business studies tend to be administered and taught with an emphasis on individual subjects, and students taking these courses sometimes have a degree in another subject. In engineering the Council of Engineering Institution (CEI) examinations have largely been replaced by part-time degrees. The two year BTEC higher certificate courses are more widely distributed than the other two types of courses.

7 The most common form of attendance is on a part-time day release basis. Evening-only attendance is common in some professional body courses in business studies, notably those for the Institute of Bankers. The block release mode of attendance is relatively uncommon in any courses at this level.

8. The main qualifications for which students on part-time advanced further education courses aim are shown in Figure 2 (Appendix 3).

9. The distribution of both full-time and part-time advanced further education by region is shown in Figure 3 (Appendix 3). Provision is concentrated in London and the South East of England with substantial

Table 1 *Courses enrolments in major establishments of further education by mode of attendance, level of course and nature of institution (thousands) England and Wales – November 1983*

INSTITUTION	POLYTECHNICS			OTHER MAINTAINED			ALL MAINTAINED		
MODE OF ATTENDANCE	AFE	NAFE	TOTAL	AFE	NAFE	TOTAL	AFE	NAFE	TOTAL
FULL-TIME	101	3	104	76	347	423	177	350	527
SANDWICH	50	—	50	11	15	26	61	15	76
TOTAL PART-TIME	67	14	81	109	1175	1284	176	1189	1365
of which Evening only	18	8	26	26	578	604	44	586	630
TOTAL	218	17	235	196	1537	1733	414	1554	1968

provision in the large industrial and commercial areas of the North and Midlands. However, most local education authorities in England and Wales provide some advanced further education. Enrolments on part-time advanced further education courses have generally remained fairly buoyant over the past 20 years (Table 2). However, there has been a considerable fall in enrolments on courses such as the higher national certificate in engineering in some colleges. Nearly half of the students undertaking part-time advanced further education in the public sector are aged 25 and over and the majority are in employment.

Table 2 *Enrolments on part-time advanced further education courses England 1963-1983 (thousands)*

Year Mode	1963	1973	1983
PART-TIME DAY	53	73	128
EVENING ONLY	50	36	44
TOTAL	103	109	172

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*These will be published as individual inspectors reports available free from DES, PDC Honeypot Lane, Stanmore, Middlesex.

Inspection sample

10. 43 English and five Welsh colleges were involved in the inspection. These included eight English polytechnics with more than 90% of their work at advanced level, six colleges with more than 50%, five with more than 20% and 29 with 10% or less. Aspects of part-time advanced further education were inspected throughout a metropolitan district and a non-metropolitan county. The distribution of samples by nature of institution and subject areas of study is shown in Table 3 which also includes the total net advanced further education pool allocation for 1984-85 for the various types of institution. A list of the 76 courses inspected is given in Appendix 2. Comparisons of all colleges with the sample colleges in terms of nature of institution, level of work and mode of study are shown in Figure 4 (Appendix 3). During the inspection over 1,600 classes, 1,300 teachers and 11,000 students were observed. The vast majority of students enrolled in the courses inspected were in employment and many were given paid release to attend. The considerable amount of part-time advanced further education offered by the armed services was not inspected.

Table 3 *Distribution of sample by nature of institution and subject area of study*

	POLYTECHNICS	OTHER MAINTAINED ESTABLISHMENTS			NO. INSTITUTIONS INSPECTED
% AFE	>90%	>50%	>20%	⩽10%	
Business Studies	3	2	4	11	20
Computing and Maths	4	2	3	1	10
Construction	3	3	3	7	16
Engineering	4	4	2	16	26
Health & Social Services	4	1	—	—	5
Hotel & Catering	2	1	1	2	6
Science	4	3	2	4	13
No. of Institutions	8	6	5	29	48
Total net allocation from the pool 1984-85 (£ million)	118	25	9	13	165

Students

11. The majority of students attending the courses inspected were employed as technicians or held equivalent level supervisory or junior management posts. Students in certain business courses, in particular those for professional qualifications in banking and to a lesser extent accounting held clerical and administrative posts. Those in the later stages of professional and degree courses were often in middle management positions.

12. Students on part-time advanced courses fall into four distinguishable categories:

1. those sharing the same background from a particular industry, who follow a course directly relevant to their everyday employment;
2. those from an employer who has specified the job-specific needs of his employees which the course is expected to fulfil;
3. those from an employer who is content for them to undertake a broadly-based course which is not normally job-specific;
4. those from a range of employers who follow a course in a discipline related to their employment.

An increasing number of unemployed students are enrolling on part-time courses. For example, 47% of the students on a BA in Planning course and 48% on a BTEC higher national certificate in building in a rural college in the South West were not in employment.

13. Most students in the sample inspected are aged between 18 and 25 years although those on degree or professional courses may be a little older. Some engineering courses contained a significant number of mature students who were continuing their studies after a break of between 5 and 10 years.

14. The proportion of women students on courses usually reflected their relative numbers in the associated occupational groups. For example, only 10 of 700 students on the BTEC higher certificate courses in engineering in a group of Midland colleges were female. On the other hand an increasing number of women are undertaking business studies and construction courses. In one course leading to the Institute of Housing qualification, 50% of the students were female. Nursing courses continue to attract a predominantly female enrolment.

15. Almost all the students on BTEC higher certificate courses lived within a 20 mile radius of the colleges they attended. In a few instances, the catchment area for a particular course increased as equivalent provision in neighbouring colleges declined. Degree courses were usually provided on a regional rather than a local basis and, in consequence, some degree course students had to travel a considerable distance to college. In rural areas, particularly in Wales, some students found it necessary to travel much greater distances; round trips of 60 to 100 miles for attendance at day release course were necessary for students attending one college. A number of factors determined why a student or an employer chose a particular college. First, the college had a good reputation and provided a range of courses and subject options. Second, it had established close links with a particular firm or group of employers. Third, it was conveniently situated and was easy to reach by road and public transport. Occasionally, a student would travel some distance in order to attend a particular college in preference to a nearer establishment. Some students had to travel increased distances to college if they changed their employment or were posted to another area. In one extreme example, following his transfer to another town by his firm, a student regularly undertook a 400 mile journey, including an overnight stay, in order to attend a higher certificate course in civil engineering at a college near London.

16. In practice, colleges enrol those students that employers send to them for part-time release courses. It is unusual for colleges to operate any selection process other than ensuring students hold the necessary entry requirements specified by the examining and validating bodies. Some flexibility in interpreting these rquirements is allowed and welcomed by colleges and is used sensibly. Some of the students on BTEC higher certificate and professional body courses had progressed to these from non-advanced BTEC courses but in business studies the majority entered with GCE A-level or in some cases degrees. A large number of part-time degree students held requisite passes in GCE A-level but some had qualified for their degree courses through alternative routes. In part-time engineering degree courses nearly all students enter with BTEC higher national certificate/diploma qualifications. 75% of the students on a degree course in building had been accepted on the basis of possessing the BTEC higher certificate. A substantial proportion of students on some of the professional body courses in business studies had first degrees.

17. The pass rate in most of the BTEC courses inspected was high. When students gave up a course, they usually did so during the first year. For

example, 80% of the students who enrolled on a BTEC higher certificate course in one college in East Anglia failed to complete the first year. Those remaining successfully completed the course. Of 79 students who enrolled on a BTEC higher certificate engineering course in the Midlands, 15 withdrew during the first year, 50 gained awards at the end of the second year and 14 were successful after a further year's study. In the BTEC engineering courses inspected 50% of the students obtained the higher certificate after the minimum period of two years' study.

18. The demands made on the part-time degree/professional student, in terms of time and commitment, are heavy and it is therefore not surprising that the wastage and failure rates may be relatively high. For example, in some business studies professional body courses it was not uncommon to find pass rates in individual subjects at the level of 25% of those who enter the examination. In a motor vehicle course, only 11% of the examination entry were successful. On the other hand, through their own determination and the hard work and the support of dedicated staff, many part-time students are able to overcome all the difficulties associated with part-time study on an advanced course that is taken over an extended period. In one polytechnic, of 35 students who enrolled on the first year of a CNAA-validated, part-time degree in applied chemistry, 28 obtained ordinary degrees and during the 1984-85 session, 25 were continuing their studies to honours degree level.

19. Students attending on a day release basis are supported by their employers in a variety of ways. Some employers do no more than offer paid release for the day. In hotel and catering the proportion of the students given paid release to attend college varied between 50 and 80 per cent; the remainder attended in their own time and at their own expense. Other employers pay fees, travel and subsistence and provide grants for the purchase of books. The public sector is often more generous than the private sector in these respects. Some engineering employers expected the needs of the firm to take priority over college attendance and a few required students to forfeit their annual holidays to make good the time spent attending college. In these circumstances it is not surprising to find that the majority of mature students in the later stages of degree courses in engineering come from the public sector where career progression was more often linked to the acquisition of qualifications. Students were generally well satisfied with their courses, which they believed would help them to fulfil their professional and employment needs and further their careers.

Teaching and learning

20. Part-time courses have their own particular characteristics. They usually involve the student in a long day at college. They often have a momentum that is urgent and demanding, and students and staff recognise that they have much work to cover in a limited time. Unlike the full-time student, for whom a course is generally a continuous experience, the part-time student has to make an adjustment from the world of work to the classroom every week. Part-time students are anxious to make maximum use of the college day for the acquisition of information and they prefer timetables which consist entirely of periods in which they are taught. For instance, part-time students, unlike their full-time counterparts, rarely undertake activities such as private study or tutorials.

Quality of teaching and learning

21. The good teachers ensured that, as far as possible, students were engaged in tasks that enabled them to discover and record information and knowledge for themselves. Students were helped to learn more effectively when they were provided with an appropriate variety of teaching methods and learning activities throughout the long day in college. In many of the good lessons seen, the lecture was not the dominant feature but served as an introduction to activities which exercised the students' skills of investigation and problem-solving. Students responded with enthusiasm to imaginatively designed learning assignments which they found not only instructive, but also enjoyable. The good teacher did not try to impose theories and views upon students but encouraged them to draw upon their work experience and formulate their own ideas through well-sustained and relevant discussion. Teachers gained the respect of their students when their teaching material was up-to-date and reflected current industrial practice. Students were invariably assisted to learn more effectively when they clearly understood the aims and objectives of their course and the standards expected of them.

22. Approximately 90% of the teaching seen was sound and about 15% of that was good. In only one class in ten did the standard of teaching fall below acceptable standards in one respect or another. The main features of

both good and bad practice were the same in all disciplines and subject areas. However, in hotel and catering and in health and social services there was much good practice and poor teaching was rare. Science teaching was generally competent and was seldom outstandingly good or bad. In business studies, the standard of teaching was generally good but there were occasions when there was an extreme variation in the quality of practice between lecturers on the same course.

Learning environment

23. Some of the good teaching took place in poor accommodation. For instance, although much of the teaching in engineering took place in rather bare lecture rooms which lacked specialist facilities for demonstration work, it was, nevertheless, generally sound and competent. On the other hand, some poor practice took place in well-equipped accommodation. However, instances were encountered where the quality of work had been enhanced because teachers had made the best use of the accommodation available; for example, in a college in the South East, civil engineering students responded enthusiastically to practical work in areas which had been skilfully adapted and utilised by an enterprising member of staff. Furthermore, in a few departments, across a range of disciplines, students were better able to undertake assignments because they had been provided with quiet areas equipped with appropriate resources, including books and micro-computers.

24. Most part-time students attended college for one long day of between 10 and 12 hours each week of the college year. In a few instances, the interest and enthusiasm of the students waned when they were taught by the same teacher for long and successive periods and did not experience a variety of teaching methods. In some colleges, lessons were three hours long. For certain activities, such as project or practical work, this length of period was both appropriate and necessary but for others it was not. Good teaching and effective learning took place when the lesson, irrespective of its length, was carefully planned and the time used imaginatively.

Private study

25. It was rare for students to be given private study periods. Generally, both staff and students shared the view that since time was at a premium on

part-time courses the entire day should be used for organised instruction, and private study was an activity to be pursued outside college hours. A short private study period in the library had to be withdrawn from one business studies course because certain employers had complained that it was a waste of the students' time.

Library

26. Generally, part-time students did not have time during their busy day in the college to avail themselves of its facilities. However, on some courses, the use of the library was timetabled as part of a specific learning activity. For instance, many students on health and social services courses made good use of the library in preparing material for seminars which they conducted themselves. Similarly, the investigatory assignments which some hotel and catering students carried out required them to use the library during the college day.

Tutorials

27. Part-time courses seldom included timetabled tutorial periods when staff could give individual students guidance and advice on their progress or discuss detailed assessment of their work. Some students and staff, and particularly those in building and construction, were sceptical about the usefulness of programmed tutorials and saw them as a luxury they could ill-afford during their busy day. Although it was rare for courses to have timetabled tutorial periods, many teachers were able to find time and opportunities to provide their students with individual guidance on their work and progress. Tutorial activity of this nature was more likely to occur when class sizes were small. For instance, the classes on part-time degree courses in construction were occasionally as large as 60 and it was sometimes necessary to divide them into smaller and more manageable groups for seminar work; when this occurred, it was also possible for the teacher to provide tutorial guidance for students who needed it. In most of the teaching seen, the relationship between staff and students was excellent and this in itself facilitated tutorial activity which was largely incidental rather than programmed. In one college, a week of full-time study had been introduced on a business studies course and this provided opportunities for tutorials.

Residential component

28. One polytechnic in the Midlands arranged residential week-ends for students on part-time degree courses in electronics and electrical component engineering. These residential week-ends afforded students the time and opportunity to explore certain aspects of their course more fully than they could have done during their crowded day in college. Furthermore, they offered considerable scope for staff to provide students with tutorial guidance and advice. The residential week-ends had proved very popular with the students and had enhanced the quality of their course. In spite of the evident benefits of residential periods, some employers, including in one instance a local authority, had decided to discontinue support for them because of the expense involved.

The lecture

29. In all subject areas, students had to acquire substantial amounts of knowledge and information. The main teaching activity was the lecture. The good teacher, however, used the lecture as a starting point in a carefully planned sequence of learning activities. Furthermore, the most successful lectures were usually supported by clear and well presented audio-visual aids and their content in some subject areas was reinforced by a case-study or assignment.

30. In all subject areas except mathematics and health and social services, students wrote a vast number of notes and appeared to derive a sense of security from doing this. At one polytechnic, science students who did not have easy access to library facilities in the areas where they lived, claimed that the acquisition of a good set of notes was the most valuable activity of the day. On the other hand poor sets of notes perpetuated errors of misunderstanding; and total dependence on a set of lecture notes does not constitute a healthy form of advanced further education. In engineering and hotel and catering, the amount of note-taking carried out by students was particularly copious. In a few instances, lecturers on some building and hotel and catering courses spent much of the lesson dictating notes and students were too pre-occupied with the labour of writing down what was said to ask questions or engage in discussion. On the other hand, when the students decided for themselves what notes they wished to make, they had

to use skills of analysis and exercise their judgment and discretion. The better teachers encouraged students to use textbooks to supplement the information contained in their notes. In one college of higher education in the home counties, students on hotel and catering courses extended the knowledge they had acquired through notes by undertaking a textbook review which they presented to other students in the class.

Structured learning activities

31. The interest and enthusiasm of the students were well-sustained in over 80% of the teaching seen because their learning activities required them to undertake tasks which they found challenging, such as problem-solving, decision-making and investigation. For example, some of the best practice in business studies included skilful questioning of the students after a concise and well-structured lecture and this, in turn, might be re-inforced by case studies involving role-playing exercises. These various learning activities were not employed at random or merely for the sake of variety but were related to one another in acceptable sequences. In a successful building services engineering lesson, the lecturer employed a number of effective visual-aids together with handouts and a case study. He made good use of transparencies which clearly illustrated hot water flow and model hot and cold water systems. The students were given up-to-date trade literature and various heating components were passed round the class. The lecturer displayed mastery of his subject and he fully engaged the interest of his students. The lesson was well planned and thoroughly prepared. Students were challenged and encouraged to participate fully in class discussion. The lesson was admirably structured and its clearly defined objectives had been fulfilled and reinforced through a range of activities. In a higher national police studies course at one college in South Wales a lecturer had produced a learning/discussion pack consisting of photocopied extracts from original historical documents on the development of public order and this was imaginatively used to set up a stimulating and analytical discussion.

32. A few instances of poor practice were encountered in which all activity centred on the lecturer, and not the students. An extreme example occurred in one college in the North West, where a construction teacher lectured his students at a desultory pace for one and a half hours without asking them questions or engaging them in any activity other than listening. Some students, wearying of the ordeal, worked quietly at other

tasks and subjects. In many colleges, however, teaching and learning were particularly effective when they aimed to make the student responsible for managing, sustaining and, in some instances, initiating classroom activity. For example, on some health and social services courses, where learning took place through seminars which the students directed, the students' work was admirably researched and organised and necessitated little intervention by teachers other than some judicious questioning.

Students' industrial experience

33. In the best practice, teachers ensured the participation of the students by encouraging them to share and discuss their own work experience. For example, students on health and social services courses provided each other with valuable factual information drawn from their own experiences at work. In this way, the students' own background and experience proved to be an important resource. In one hotel and catering class, the students drew upon their own industrial experience to challenge the conclusions reached by the teacher. Instances were also encountered in hotel and catering in which the students' observations about their own industrial experience were skilfully used in order to arrive at solutions to particular problems and build up knowledge of certain issues.

34. Most of the teachers of business studies made effective use of students' experience. For instance, in one particularly successful lesson on personnel management, the lecturer drew on the experiences of a student who worked in the special context of a small, family firm and in another, a lesson on world money markets, the lecturer elicited some valuable contributions from a student who was employed in international banking. On engineering courses, fruitful classroom discussion often centred round industrial experiences which students had in common. In one higher national certificate science course in a small college in Wales students were split into groups and asked to prepare a talk on the influence of chemicals as agents of change. The presentations were video-recorded for discussion and analysis within the class and an animated and productive session followed.

35. The students' own work experience, when properly utilised in the classroom, served as an important resource that helped to ensure that course content was relevant and up-to-date. For instance, students on health and social services courses had devised a care programme for patients and had

determined its content in the light of case studies taken from their own working experience and environment.

Local industry

36. In other subject areas, such as hotel and catering and business studies, students visited local industry and commerce to observe current practice. At one college in the South West, the students on hotel and catering courses conducted surveys in local industry as part of their course work; in another college, the services of a practising auditor in food and beverage control were called upon to ensure that the management programme was realistic.

Relevance of course content to industrial practice

37. The content of some courses, particularly in engineering, was not up-to-date. A few instances were encountered on business studies courses when students were presented with out-moded and irrelevant learning material but these usually, though not exclusively, occurred when the teaching was carried out by specialist staff from outside the business studies department. When staff from one department teach on courses in another department, they are said to provide "servicing"; in some cases, "servicing" teachers were not sufficiently involved in course teams and course planning to ensure that their material and methods were relevant and compatible with those used by other staff. There was also a slight incidence of out-of-date mathematics and computing teaching in courses in non-polytechnic institutions. In a few instances, lesson content was out-of-date or inappropriate because teachers had failed to review or evaluate what they were teaching. However, most staff had made a positive effort to ensure that their teaching material was up-to-date. For instance, although there was a general absence of recent industrial experience among science staff they had been successful, partly through research and consultancy work, in keeping themselves aware of current developments in the science industries and this awareness was reflected in their teaching.

Students' understanding of the course

38. In the best practice, teachers sought to ensure that their students fully understood the aims and objectives of the course and the programme of

study they were expected to undertake. Furthermore, students were given clear indications of the standards of work expected of them. For example, at a college in the North East, the course tutor for a BTEC computer studies course had issued all his students with an excellent learning manual which he had compiled. This document set out the aims and objectives of the course, specified its structure, described assessment requirements and procedures and explained certain aspects of its operation; in addition, it contained a complete set of syllabuses, the timetable and a booklist. As a result of this course-tutor's enterprise and initiative, his students had a clear idea of the nature and scope of their course and of the demands it would make upon them.

Professional body courses

39. By contrast with BTEC and degree courses, which are internally designed and entail course work assessment by teachers, professional body courses are externally designed and assessment is dominated by a final examination. The exigencies of the final examination influence the teaching and learning styles on courses leading to professional qualifications, particularly in some business studies and construction courses. Students on such professional courses expected their teachers to confine learning activities to those they believed would lead to examination success. This pressure could lead to dull and narrowly based work. But even within the restrictions imposed by external syllabuses and examinations it was possible to provide a wide range of teaching approaches and to use the students' knowledge and experience productively. In a professional accounting course in South Wales the tutor made particularly effective and knowledgeable reference to the variety of cost absorption practices among the employers of the students in his class, and this led to well-informed discussion of cost accounting applications in a range of industrial circumstances. In other business studies courses, students often spent much time working through past examination papers. In some colleges, construction students felt it necessary for the teacher to cover every detail in the examination syllabus. They expected a fast and urgent lecturing pace and were critical of those staff whose approach was not entirely examination-focused. However, in their search for information that they could use effectively in the examination, some construction students made more use of the library than those on BTEC courses. In courses leading to professional qualification in the sciences there was little divergence in style between the professional and the BTEC and degree courses.

40. One polytechnic enabled students on professional body courses in building and construction to take, at the same time, a course leading to the award of a polytechnic certificate. Those students who opted to follow, additionally, the polytechnic certificate course generally experienced a broader and more varied range of learning activities than those who confined themselves to the professional body course. The polytechnic certificate course usually engaged the students in individual learning assignments that developed their problem-solving and study skills. Students who took the polytechnic certificate course often obtained good results in their professional body examinations.

Assessment

41. The students did a great deal of homework and classwork. Yet in some subject areas, the quality of feedback to students was variable, and some teachers failed to do justice to the hard work and effort put in by most of their students. In several instances students received no more than a grading mark and a one-line comment in return for perhaps 10 or 12 pages of detailed work; furthermore, very few teachers regularly corrected errors of spelling and grammar. By contrast, students received detailed oral and written corrections of their work during tutorial periods. In particular, both the assessment procedures and the tutorial periods enabled staff to detect and assist those students who had learning difficulties.

42. Students on some BTEC courses in science were subject to an excessively high number of assessments. For instance, on a course at a college in the North East, students underwent 70 assessments over two years. When the number of assessments was as great as this, the procedures of assessment could become more important than the processes of teaching and learning. Most colleges were able to measure their students' performance thoroughly and comprehensively with only half this number of assessments. In other subject areas, students did not appear to be over-assessed and in social and health services and engineering in particular, staff had taken care to ensure that assessed tasks were spread reasonably throughout the course; on some business studies courses, however, students experienced too great a workload at certain times. In engineering, there had been a shift, welcomed by both staff and students, away from tests at regular intervals to assignments which exercised the student's knowledge and skills in a specific and realistic context.

Influence of final examination

43. The main assessment process in the professional body courses was the externally marked final examination. Some professional bodies hold their examinations early in the summer term; as a result of this, the teaching in some colleges was particularly examination-focused and the range of learning activities was limited because teachers had to complete the syllabus in only two terms. Furthermore, some professional bodies provided little or no feedback to the colleges about the examination performance of their students. However, in most subject areas, and particularly in catering, the better teachers on professional body courses ensured that their students undertook investigatory assignments and projects even though assessment of these would not count towards final certification. It was significant that some students on professional body courses were distrustful of external assessment and complained that their attitude to learning was being adversely conditioned and narrowed by the constraints of the external examination. They believed that external assessment could be unreliable in its measurement of knowledge, skills and competence.

Resources

Teaching Staff

44. All the courses observed were adequately staffed and provided essential specialist subject coverage, sometimes drawing on staff from departments other than the one responsible for the course. However, some specialisms in engineering, business studies, computing and construction are covered only with difficulty because of the problem of attracting specialists from industry into teaching. Young staff with recent industrial experience sometimes return to industry, leaving vacancies which are difficult to fill. In health and social services courses, teaching is often shared with staff from local schools of nursing, hospital laboratories and district health authorities.

45. With the exception of construction, medical laboratory studies and business studies, very little use is made of part-time staff. Nearly all the engineering teaching is carried out by full-time staff, some of whom work overtime. Some part-time staff play an invaluable role in such business subjects as banking, accountancy and on construction and catering courses. This is largely because they are practitioners in the subjects they teach and can provide specialist contributions which are based on their own industrial or commercial experience. Degree and HNC courses in business studies are taught mainly by full-time staff, while courses leading to other professional qualifications tend to make more use of part-time staff. Where use is made of part-time staff and visiting lecturers and their contributions are carefully coordinated with those of the course team the teaching is enriched. Problems of coordination seem to occur only when a quarter or more of a course is taught by part-time staff.

46. Generally, responsibility for teaching degree and HNC courses is shared among many staff. In the larger institutions some part-time courses are developed and operated alongside full-time degree, higher diploma or professional qualification courses in the same subjects, to the benefit of both sets of students. In such cases, departments have more scope for employing a wider range of subject specialists to provide good subject coverage. While, for example, this occurs in some construction courses in large departments, there are also other cases where an entire construction course is taught by only one or two members of staff with the result that students do not benefit as they should from a variety of teaching and learning methods.

47. In most subjects the turnover of full-time academic staff is low, but most institutions have recently been able to appoint a few new staff in computing, health and business studies. By contrast, very few or no recent appointments have been made in engineering, construction and science and it is not unusual in these areas to find a department where the average age of staff is 50 and where the last appointment was made over ten years ago. Stability has its advantages and disadvantages: long serving teachers acquire a thorough knowledge of course content and student need but it is often the newly appointed teachers who bring recent and relevant industrial experience to the subject/course.

48. The majority of academic staff have acquired a decade or more of teaching experience after spending several years in industry. Others entered teaching posts in higher education direct from postgraduate research and have had no first hand experience of industry. In most subjects staff with such research experience complement the contributions of those with industrial experience. Many staff have been in post for 15 years or more, and their industrial experience is therefore dated. In catering, efforts are being made by individuals to update themselves but few colleges are attempting this is in an organised way and only one college has as yet taken advantage of a scheme for short term secondments to industry run by the professional body. In engineering and construction, staff in most colleges and a few polytechnics have maintained little involvement in any form of research or consultancy. In health and social services courses, the experience of health service staff and of the students themselves is a useful learning resource. While the industrial and commercial experience of some business studies staff is also dated, a number have been active in consultancy work and more generally they have contacts with firms through the supervision of student projects and the placements of sandwich students. The use of part-time staff from the world of commerce in some business studies courses, especially those leading to professional qualifications in such fields as accountancy, banking and insurance, helps to keep the teaching up-to-date. Science staff, particularly those in the polytechnics, are often involved in research and consultancy. Colleges need systematically to ensure that all staff are enabled to keep abreast with developments in their subjects and with their application to industry and commerce.

49. Staff in general possess suitable qualifications for teaching on the courses inspected. They hold relevant degrees and/or professional qualifications, and in some subjects, postgraduate qualifications. In

computing it is not unusual to find staff holding a first degree in another subject, having subsequently established their competence in computing by working in the industry. A few staff maintain an active involvement with a professional body which is an important element in sustaining the vocational relevance of the courses they teach.

50. Some distinctions can be drawn between types of institution. In Polytechnics, the presence of much full-time degree work and often some research is reflected in the specialisation of staff and their high qualifications. In other colleges, staff are less likely than those in polytechnics to have a higher or research degree but are more likely to have a teaching qualification. In both types of institution the higher academically qualified staff tend to be assigned to the highest levels of work taught.

Support staff

51. Many of the part-time courses inspected include an element of practical work for which technician support is provided. Science courses are generally supported by well qualified and effectively managed technicians although, as with other subjects, technicians are not always made available in adequate numbers to support evening sessions. In BTEC engineering courses, there has been a reduction in laboratory work in recent years and teaching is too biased towards formal classroom-based work. While technician support is adequate to sustain what is being done, it could not support desirable developments in practical work. In science and construction, the pressure from validating bodies to cover theoretical syllabuses also limits the use made of laboratories and technicians. The need for technician support in business studies as a result of the introduction of information technology and other changes in teaching methods has not been recognised in many institutions. Developments in computing, necessary for both specialist computing students and others, are being inhibited by the lack of technician support, especially in colleges outside the polytechnics.

52. Clerical and typing support is in many cases only just sufficient to meet the demands being made upon it at peak periods of activity in the academic year. There were instances where academic staff needed to do clerical work and typing in order to overcome deficiencies. The polytechnics were rather better placed in these respects than the other colleges.

Accommodation

53. Most colleges have had substantial building programmes in the post war years and the accommodation is generally adequate.

54. Some general teaching rooms are well maintained, comfortable and attractive, with furniture capable of being used in different layouts to suit varying teaching styles. Many other classrooms are drab and poorly maintained and furnished. Some of these could easily be brightened up with displays of students' work and other materials. Shortage of general teaching spaces has in some cases caused laboratories to be used for class teaching, a purpose for which they are ill-suited and inefficient. Even so, some teachers seem to prefer laboratories to classrooms for general teaching. Where laboratories were so used, especially in science, the opportunity to make greater use of their potential for practical demonstrations was not taken.

55. Most laboratories are well maintained and fit for their purpose. However, there are instances of over-crowding in science and in both science and engineering some outdated laboratories exist. Serious deficiencies in laboratory provision were noted in colleges running construction courses: the only available laboratory in one college offering BTEC higher national certificate civil engineering and building courses consisted of one small room capable of accommodating only two or three students undertaking practical work at a time. There are also shortages of specialist rooms equipped for computer studies courses, though for polytechnics this is less of a problem.

Equipment

56. Although science courses are well resourced they sometimes lack sufficient equipment sets for the largest groups and there is a need for an amortisation policy for replacing the increasing amount of obsolescent equipment. Similarly, a replacement policy is needed in engineering where there is even more obsolete equipment except in specific areas which have benefited from recent government funding initiatives in new technologies. Some existing engineering equipment could be given a new lease of life with modern instrumentation and data processing devices. Many departments in science, construction and engineering have persuaded firms to make donations of second hand equipment, but such benevolence is not on a scale to solve the central problem of obsolescence. Staff would need to

spend prohibitive amounts of time on adapting such gifts for teaching purposes. A true cost analysis would probably show that it is often cheaper to purchase new equipment.

57. Computers are being used increasingly in general teaching. While some inadequacies exist in the polytechnics' computer equipment, most of the shortcomings were found in other colleges. Some shortages in computer equipment are limiting desirable developments, especially in the teaching of computing and information technology to non-specialist students, and inhibiting the wider use of computers as an everyday part of most subjects' activities. In many engineering departments there is a shortage of computer aided design and drawing equipment and computer-aided manufacturing facilities.

Libraries

58. Part-time students make little use of college libraries partly because of their heavily timetabled day; restricted library opening hours; and the remoteness of the library from the students' main base in the college. They also have difficulty in competing with full-time students for access to journals and books. Controls for sharing the use of popular materials among students and classes are sometimes exercised; and they take account of the part-time students' limited free time on site. Student assignments in BTEC courses can be a useful means of encouraging library use and of making time available within the formal timetable. Greater use of the library by part-time students would enhance their higher education experience.

59. Except for those books, journals and learning materials which are in strongest demand, most libraries, especially in polytechnics, are adequately stocked to meet the needs of part-time students. Outside specialist, company and public libraries are important sources of books for some students especially where they have to undertake projects.

Group size

60. Over 1,600 classes, with an average size of just over 15 students, were observed during the course of the inspection. Lectures were often delivered to as many as 30 students and occasionally 60 or more, especially when groups from different courses were combined. Smaller groups were formed for practical or project work. Classes of fewer than 10 students in all disciplines were seen rather more often in colleges located in rural areas where the nearest college offering similar courses might be up to 75 miles away and not easily accessible to part-time students.

61. Better use could be made of resources without detriment to, and sometimes with advantage for, the quality of learning if the size of teaching groups generally could be increased. Although such developments are often limited by a shortage of large lecture rooms, recruitment rather than physical capacity is the main constraint. It has been affected in some subjects by declining industries and local companies' attitudes to training and release. Most colleges will not turn away suitably qualified applicants to a part-time course, even if their admission means creating teaching groups of an undesirable size. This typifies the institutional commitment to the part-time student. Some colleges have made considerable efforts to accommodate students unable to obtain day-release by developing distance learning and flexible modes of attendance.

62. In an effort to make better use of teaching resources, some colleges have combined for class teaching purposes, parallel full-time and part-time courses in the same subject, or different part-time groups in allied subjects for parts of the course. Such opportunities are limited by the extent to which syllabuses overlap and have so far occurred on only a small scale. They require careful planning if they are to cater for the needs of all the students. The development of modular BTEC and degree courses has created further possibilities for combining teaching, allowing in some cases very small groups to survive. In spite of these various methods for dealing with small numbers of students, some colleges are struggling to maintain viable enrolments in the face of financial stringency.

Links with employers and others

63. Part-time advanced courses are provided by colleges in response to the needs of industry and commerce. In addition, they offer an important form of continuing education to individual students many of whom are in employment but attend these courses in their own time. Colleges make considerable efforts to maintain contact with employers, professional bodies and their local community. Local industry and commerce were generally represented on college boards of governors and the advisory committees of college departments. College staff visited firms for a variety of purposes such as student recruitment, placement and monitoring of sandwich students, supervision of research projects based in industry, consultancy work for industry and commerce and discussion of student progress. Links with industry and commerce were strongest where the colleges and employers had collaborated in the design and validation of courses. In a few instances, representatives of industry accepted invitations from colleges to take part in the teaching in order to provide particular expertise which was not available amongst the teaching staff. Furthermore, some colleges arranged regular visits to industry and commerce as part of the course. Relationships with industry and commerce were also fostered by the research and consultancy interests of staff, links with professional bodies, and the involvement of teachers with in-company and in-service training schemes. College staff valued their contacts with industry and commerce because it is through these that they were able to keep abreast of developments in technology and business practice and reflect them in their teaching.

64. Some successful ways of establishing fruitful links between colleges and industry and commerce were identified. In the business studies department of a polytechnic, groups of staff made regular visits to local firms in order to familiarise themselves with current business strategy. In return, the polytechnic's industrial liaison officer arranged open days for training officers to further their awareness of what the college had to offer. A number of construction departments strengthened their links with industry through providing short courses for middle management, holding regular meetings between teachers and training officers of building companies and arranging regular visits for staff to construction sites and manufacturing premises. A London polytechnic contracted staff from a nearby prestigious London hospital to provide 70 hours of teaching in the

diploma in professional studies in a nursing course. In addition, the hospital encouraged its nurse managers to visit the polytechnic and contribute their specialist expertise to some of the teaching sessions. At the same polytechnic, teaching staff were members of The English National Board and the United Kingdom Central Council for Nursing, Midwifery and Health Visiting were frequent contributors to nursing publications and had been awarded £250,000 by the Manpower Services Commission to develop a distance learning course leading to the University of London Diploma in Nursing.

65. A few teaching staff also broadened their experience by acting as consultants to industry and commerce, serving as officers and committee members of professional bodies, attending courses, conferences and summer schools and acting as examiners.

66. In the majority of the sample colleges staff links with industry and commerce, the professional institutions and the examining and validating bodies were well established.

Perceptions and issues

Characteristics of part-time students

67. The part-time courses of advanced education covered by this report provide an important route to higher level qualifications for students, most of them already in employment, who are unable for various reasons to embark on full-time courses or who positively prefer "earning and learning". Unlike the many students entering initial courses of full-time higher education at the age of 18 or 19, the great majority of students on part-time advanced courses are mature, already committed to a field of employment, have gained experience of work and are seeking to improve their qualifications and advance their careers. Their performance and motivation depend on their chosen courses having clear vocational objectives; students are well placed to assess and challenge the relevance of the courses they attend.

Teaching and learning objectives

68. The aims and objectives of these courses are usually well-defined, either by the individual colleges, usually in consultation with employers, or by the professional bodies which determine the syllabuses. Students express a generally high level of satisfaction and the observed teaching and learning on which this report is based suggest a reasonable level of success in engaging and retaining students' interest. Most of the teaching and learning is sound; some of it is very good, though there is a need to improve the feedback to students on their submitted work.

Management of time

69. The pressure felt by both staff and students because of the limited time students are in college is clearly a major determinant of teaching styles. There are also pressures to cover large amounts of theoretical work, and some overloaded syllabuses are devised by colleges themselves. The single day which is the lot of most part-time students is necessarily intensively organised. Time lost for whatever reason cannot easily be made up. In

consequence the efficient use of time has a high priority in achieving effectiveness and much thought has to be given to the pattern of the students' day in college, the demands to be made on their time outside college and the relationship between the course and their jobs. Students need guidance about private study and help in acquiring independent study skills. Colleges and examining and validating bodies may also need to consider whether the present pattern of the academic year is the best for students, employers and teachers. Non-advanced courses are now provided in unconventional patterns and advanced courses might benefit from similar reforms.

Successful strategies

70. Pace and variety in learning activities depend on efficient planning and organisation. A significant proportion of staff who teach on these courses have risen to the challenge. Imaginatively planned courses succeed in combining a variety of learning activities, both within each class session, whatever its length, and over the duration of the college day, enabling the student to develop problem solving and study skills as well as to acquire information. Strategies which make students responsible for managing at least a part of their classroom activity are particularly effective. Study weeks and residential weekends provide valuable reinforcement of the main programme and time for reflection and counselling.

Capitalising on work experience

71. Some teachers could take more advantage of the rich diversity of work experience which part-time students bring to the classroom. When students are invited to draw on such experience the relevance of the course is enhanced. Practical work in science and other subjects, made sufficiently demanding, sustains the interest of those students whose work experience as technicians has brought them already to a high level of practical skill.

Constraints of externally examined courses

72. Some of the dullest teaching is to be found in courses following syllabuses determined by professional bodies, which also administer external examinations. Here, the pressure to adhere to the letter of the syllabus is at

its greatest and much classroom work and private study are devoted to answering past examination papers. Despite or perhaps because of this, pass rates for professional body courses are sometimes significantly lower than for other courses. For some examining bodies the pressure on time is increased because their examinations occur early in the summer term. These professional body examinations distort the content, style and pace, giving little or no credit for work not directly related to the examination, and act most adversely to student interests when syllabuses are outdated, and references to developments in information technology, for example, are absent. However, students have performed especially well in this type of examination where colleges have deliberately pursued a broader programme of work.

Academic and other guidance

73. Although courses are seldom timetabled to provide tutorial sessions, many teachers find opportunities, especially when classes are small, to provide their students with individual guidance on their work and progress. Parts of practical classes are often used for this purpose. Students expressed their appreciation of the academic and career guidance offered to them before enrolment. Some colleges have joint counselling arrangements with large employers which are particularly effective. Well organised courses take account of the applicant's previous education and experience.

Providing for the able student

74. Some well qualified young people, including graduates, are now in jobs for which they are overqualified. Nevertheless they must acquire further qualifications by part-time study as a prerequisite for career advancement. Students such as these present a particular challenge to teachers as failure to challenge these and other well-qualified students results in frustration and waste of time.

Assessment

75. In general, students were not over-assessed and in certain subject areas staff had ensured that assessed tasks were spread reasonably throughout the

course; however, students on some BTEC courses in science were subject to an unacceptably high number of assessments. Students carried out a substantial amount of homework and classwork that some teachers failed to assess in sufficient depth. By contrast, on some courses, students received detailed oral and written correction of their work during tutorial periods

Success and withdrawal rates

76. The success rates for part-time courses (defined as the proportion of first year enrolments successfully acquiring the relevant qualification in the minimum time) are nearly always somewhat lower, and sometimes very much lower, than those of equivalent full-time courses. The failure rates on some courses leading to the examinations of the professional bodies are particularly high. This represents a wastage of educational resources to which the attention of LEAs, colleges and the professional bodies is drawn. Evening-only courses suffer from particularly high withdrawal rates. Withdrawal need not be permanent; a feature of the system is that it offers the flexibility to enable students to resume study at the same or another college later. BTEC unit-based courses, for example, enable students to adjust their pace to their personal circumstances. As with full-time courses, by far the heaviest wastage occurs at the end of the first year. Examination failure is only one of many reasons which students may have for leaving a course but where the withdrawal or examination failure rates are high, colleges should seek to understand and act upon the causes. Many colleges could progress in this by keeping better records of the numbers and reasons for withdrawal from courses.

Student commitment

77. Part-time study is an exacting test of student commitment and motivation. Students enrol for many reasons including personal interest or improved promotion prospects with the same or a different employer; they will travel long distances to attend a course. On the other hand, by no means all the students affected by the closure of a course will enrol elsewhere, especially in rural areas where no accessible alternative exists. For some, the personal inconvenience of travelling to another centre outweighs the vocational gains from successful course completion; much more could be done to improve student access by better collaborative arrangements and the development of more "open" and "distance" techniques.

Employer commitment

78. Employers support part-time advanced courses for all sorts of reasons: for their training and vocational value; as an adjunct to recruitment; and together with job performance as a measure of an employee's potential for promotion. Employers are most likely to encourage employee participation in part-time courses if the vocational pay-off is obvious and immediate and if the organisation is large and flexible enough to cope while the employee is absent in college. The successful recruitment to courses often depends on the mutual respect and understanding which has developed between college and employer. Some employers will even make successful completion of the course a condition of promotion. Public sector and large organisations tend to provide most financial support and, inevitably, the highest proportion of students on some courses. Some employers believe that making opportunities for advanced part-time study available helps them to recruit able and ambitious staff. As noted in paragraph 19 the level of employer support varies widely.

Academic staffing and staff development

79. Part-time courses are in general adequately supported by academic staff but the best specialist coverage, relevance and variety are to be found where several teachers are involved in a course, and where use is made of part-time and visiting lecturers whose contributions are carefully coordinated with those of the course team. Academic staff are well-qualified, many have industrial experience though acquired some years ago, and most make an effort to keep abreast of their subjects. Some courses' content is dated and college policies and practices should more systematically enable staff to keep up-to-date in their subjects and in industrial and commercial applications; research, consultancy and secondments to industry should be encouraged. Professional updating is a particular need of staff outside the polytechnics where research and consultancy are much less common.

Physical resources

80. The quality of part-time courses depends far more on the calibre of teaching staff than on the adequacy of physical accommodation, though existing rooms could sometimes be better used. The main deficiencies in

accommodation are in the computing and specialist construction areas of colleges other than polytechnics. Laboratory facilities and technician support staff for science and engineering are adequate. In engineering, they would come under pressure if the amount of practical work increased, as it should. The increasing sophistication of equipment in subjects like business studies, for example, mean that the level of technician support needs to be increased, possibly by re-deployment. Replacement of specialist equipment poses a problem with which colleges cannot cope within existing financial allocations. Systematic policies, both central and local, are required particularly in engineering and science to deal with obsolescent equipment.

Institutional differences

81. Important differences exist between the provision made by large higher education institutions (mainly polytechnics) and that of the other colleges, most of which are significant providers of non-advanced courses. The former have the capacity to provide extensive specialist coverage over a wide variety of subjects and can exploit the flexibility and economy which are to be gained from running part-time courses alongside strongly recruiting full-time courses. In some institutions which are not large scale providers of higher education, the range of advanced courses is much more limited, standards of provision are lagging behind and the cost of correcting all the deficiencies in terms of staff development, equipment and buildings would be prohibitively high. This applies particularly to engineering, construction, computing and science and might indicate a need for colleges to share expensive resources.

Influences of quality

82. The rich tapestry of part-time course provision is fulfilling, often locally, a nationally important economic and social need, developing the skills and knowledge of people at work and helping some who are out of work to improve their employability. The quality of this provision depends upon a number of factors including college management skills, physical resources, the enthusiasm, expertise and attitudes of teachers, employer's interest, student attitudes, the level of support, accessibility, administrative controls and the influence of examining and validating bodies.

Conclusions

83. At present, part-time courses of advanced further education courses are an under-utilised national resource; the major conclusion of this report is that increased enrolments on many courses could be accommodated at relatively small marginal cost and with advantages for the quality of the education of the workforce in general. The main factors, both positive and negative, affecting participation are to be found in employer attitudes to release, in the rigours of part-time study, in the geographical location of the courses, the type of institution in which they occur and the attractiveness of each course including its local reputation for being well-taught and successful. Colleges can do much in the areas over which they have control to improve matters; but in doing so they will need the support and active involvement of professional, examining and validating and other bodies, both regional and national. If much more efficient and effective use is to be made of part-time AFE to benefit the country and individuals, many employers in England and Wales will need to be persuaded to place a much greater value than they do now on continuous education and training.

Appendix 1 The seven vocational areas: a summary of the findings

Business studies

COURSES

1. There are three main strands of business studies provision. They are part-time degrees validated by CNAA, higher national certificates (HNC) in business studies or public administration validated by BTEC and a range of courses preparing for the examinations of a number of professional bodies. The courses for professional bodies have certain general characteristics which distinguish them from those for degrees or HNCs. The emphasis is on individual subjects rather than the course as a whole. Usually the syllabuses are drawn up by the relevant professional body and the students assessed solely by a final external examination. Examination success rates are generally very much lower than those for degrees and HNCs. The nature of the assessment and the low success rate reflect in part the fact that a professional qualification is to a varying extent "a licence to practise" and a guarantee of standards to a client.

2. One distinctive feature of business studies as compared with other types of vocational education is that the local authority institutions are not the only providers but are part of a mixed economy. There is substantial correspondence course provision and postal tuition is provided by independent education and training organisations. The biggest single factor currently affecting this area of vocational education is the development of information technology.

3. The total enrolment on the types of part-time courses from which the inspection sample was drawn was about 40,000 in England in session 1983/4. Three-quarters of these students were enrolled on professional body courses. The remaining quarter was made up of about 8,000 students on BTEC HNC courses and about 2,000 on BA Business Studies courses. Apart from the degrees, which are available only in certain polytechnics and institutes of higher education, the business studies courses are distributed widely across different types of colleges.

STUDENTS

4. Students on business studies courses are employed not only in a very

wide range of manufacturing and commercial organisations and the supporting services such as insurance, banking and finance but also in public administration and public services. Some already hold positions of responsibility while others have only recently entered employment and are on the threshold of a career. Predominantly both the students and their employers see the qualifications in relation to future employment rather than tightly geared to the job currently held.

STAFF

5. Courses are appropriately staffed by teachers who have relevant academic and/or professional qualifications. Many of the full-time staff have also had relevant commercial/industrial experience but, as with other teachers of vocational subjects, it is a cause for concern that the experience is often dated. However, the problem is less serious in business studies than in some other vocational areas. In recent years because of the growth in business studies provision it has still been possible to make some new appointments direct from the industry. Also some lecturers, especially those who have professional qualifications in fields such as accounting, are able to keep abreast of current practice through consultancy.

ACCOMMODATION AND EQUIPMENT

6. In the teaching of business studies the class or seminar room is the important facility. There is less need for specialist accommodation than in the technologies. The suitability of accommodation used for part-time courses is varied but deficiencies which have a serious effect on the teaching and learning are rare. Library use and provision presented a mixed picture. Occasionally the book stocks were inadequate and sometimes there was a problem of access when library opening hours did not coincide with student study programmes. The impact of information technology on business occupations is reflected in the growing need for student access to computing facilities. The penetration of computing into the part-time courses is still at too low a level and proveeding too slowly, and in some cases difficulties of access to college facilities are major inhibiting factors.

TEACHING AND LEARNING

7. In general the teaching seen was of a good standard. The best teaching was stimulating and imaginative and used a wide range of teaching and learning activities. The range tended to be more limited on courses leading to the examinations of professional bodies and was sometimes restricted to lecturing and worked examples, often drawn from past examination papers.

By contrast the HNC and degree courses made greater use of student-centred learning. Whatever the mode of teaching the students were generally hard-working and committed to their course of study. The overall quality of written work seen was reasonable to good and the grades awarded were generally appropriate. The amount of feed-back on written work was variable and on occasion amounted to no more than brief and inadequate comment.

Computing and mathematics

8. Computing and mathematics were inspected in three polytechnics and three non-polytechnics and 73 classes were visited. The inspection covered six courses at BTEC, degree and professional level. In addition to these, computing and mathematics were inspected within business studies and engineering. The part-time BSc course in mathematics, traditionally a route whereby teachers enhanced their qualifications, now has fewer enrolments than formerly. A higher certificate or diploma in mathematics, statistics and computing is often used by students to further their career in computing rather than mathematics. Colleges are admitting an increasing number of unemployed students to part-time advanced courses and to the higher national certificate course in computing studies in particular. The wastage rate on courses is high. Of a sample of 300 students who enrolled during the past four years, 45% failed to complete their courses. The overall wastage rate on two year higher national certificate courses is as high as 70% in some colleges.

9. Staff were appropriately qualified for the courses they taught. Teachers of computing generally had industrial or commercial experience and in many instances this was both relevant and recent; however, many teachers of mathematics lacked recent industrial experience. Several computing departments have taken on additional computing teachers in recent years; by comparison, few of the colleges visited have increased their staffing for mathematics. Most of the teaching was carried out by full-time staff; in one polytechnic, a British Computer Society course was taught entirely by part-time staff. There is a general shortage of support staff and of computing technicians and laboratory technicians in particular.

10. Accommodation was generally satisfactory and the colleges were well equipped. Most of the teaching seen was acceptable and much of it was

good. In the main, lectures were well prepared, carefully and competently delivered, and supported by effective handouts or OHP transparencies. In the best lessons the lecture was often supplemented by an appropriate range of learning activities including practical work, case studies and role play exercises; in the less satisfactory lessons, the students were given too many routine exercises which failed to hold their interest and they were not provided with challenging assignments or given opportunities to engage in discussion.

Construction

COURSES

11. Almost half of the 33,000 students enrolled on advanced courses in construction in session 1983-84 were studying part-time. Construction is a broad church, embracing a wide variety of disciplines which are reflected in the 51 courses inspected: they included building (18 courses), civil engineering (13), surveying (8), building services engineering (4), architecture (2), housing (2), planning (2) and estate management (2). Classified by qualification aim, 28 were BTEC higher national certificate courses, 8 were part-time degree courses and 15 were courses leading to professional qualifications. They varied in length from a minimum of 2 years for the HNC to 6 years for the degrees. The relevance of all the courses to the particular disciplines was perceived by the students, their employers and college staff. Most could have accommodated extra students at marginal cost.

STUDENTS

12. Four-fifths of the students attending the HNC building courses were employed by building contracting organisations. Those attending HNC civil engineering courses were evenly divided between the public and private sector, whereas most of those attending courses leading to professional qualifications came from the private sector. Paid release was usually more easily obtainable from public sector employers: some students who encountered difficulties in obtaining release had to sacrifice pay or holiday time or attend outside working hours.

13. While most students on the HNC courses entered with an appropriate ONC qualification, there was more variation in the subject and type of entry qualification held by those on professional and degree courses.

Most students were in their 20s. There were only a few women except on the professional housing courses where they accounted for almost half of the total.

14. HNC courses in building and civil engineering are comparatively numerous and accessible: three-quarters of the students attending them travelled less than 20 miles. By contrast, some professional and degree courses and a few HNC courses are available only in a very few centres and significant numbers of students travel over 50 miles each way to attend them.

15. In the HNC building and civil engineering courses, between75% and 85% of students obtained an award in the minimum period and those not succeeding in this time may later pass units which they have previously deferred or failed. In the degree courses, the following success rates were found: surveying, 95%; planning, 65%; and building engineering services, 60%. Success rates in professional courses are estimated to be 85% in architecture and 60% in building and surveying.

STAFF

16. Teachers were well qualified, both academically and professionally and a few were trained teachers. Polytechnic staff were better qualified than those in other colleges but had on average similar periods of industrial experience. In all institutions, most staff had obtained industrial experience but often over 15 years ago. While younger staff were well qualified academically, they usually lacked industrial experience. Part-time teachers made a significant contribution to some courses because of their authoritative industrial knowledge.

17. Most polytechnic departments had developed a sound research ethos. Consultancy in both polytechnics and colleges made little contribution to the curricula, but there were a few cases of educationally relevant and pioneering work. Higher priority needs to be given to staff development, whether to enable staff to update their industrial and specialist knowledge or improve their teaching or administrative skills.

18. Technical assistants were generally appropriately qualified and adequate in number although not always deployed most effectively. They appeared to play a crucial role in the successful establishment of micro-computing in departments.

ACCOMMODATION AND EQUIPMENT

19. Much of the accommodation was purpose built in the post-war period and is generally satisfactory. Laboratory provision in the polytechnics was particularly good but that in the smaller colleges was often inadequate or inappropriate. Although polytechnics were in general better equipped than other colleges this did not extend to computing, where some of the smaller colleges had made much progress in developing microcomputing facilities. Where computing applications flourished in a department it was usually because of a few dedicated staff rather than specific departmental policy.

20. Most institutions had developed a satisfactory library service, often incorporating computer-based systems, and the best provision was to be found in polytechnics. There were some interesting examples of learning resource centres containing manufacturers' products and literature. Providing satisfactory opportunities for part-time students to use college library facilities was a problem because of the students' heavily timetabled day. Some institutions had taken steps to reserve stocks for part-time students and to encourage library use through course assignments.

TEACHING AND LEARNING

21. The teaching was generally sound but uninspiring and students were not challenged sufficiently. The traditional lecture was the most common teaching mode; the amount of practical work varied according to the subject, the institution's facilities and the pressures on the timetable. Separately timetabled tutorials were rare except on courses recruiting large numbers of students.

22. Student participation was generally least satisfactory on HNC courses and most satisfactory among degree courses. Some of the professional courses offered students a rather narrow educational experience. At every level, students were more than willing to participate when given an opportunity to do so. Quite often, good participation was achieved by part-time staff initiating discussion using work-related examples. Other teachers seldom made use of students' industrial experience and had surprisingly little knowledge of what students were doing at work. Both students and staff would benefit if more effort was made to draw on students' work exprience during lectures, seminars and in written case studies.

23. Course organisation and planning were best in degree and certificate

courses in polytechnics, where course committees benefit from experience gained in the administration of full-time degrees.

Health and Social Services

24. Two kinds of part-time course are available to nurses who have already obtained basic nursing qualifications. First, there are higher academic courses generally offered in public sector higher education institutions; and second, there are advanced professional courses, often leading to enhanced clinical skills and generally provided in NHS schools of nursing. The inspection was concerned with the first type of course because they are primarily provided by the education service rather than the National Health Service. The courses inspected were mainly in polytechnics and lead either to the revised University of London two year Diploma in Nursing (6 courses) or to a Health Studies degree (1 course). All the courses involved some participation by teachers from the local school of nursing. Because of the small scale of the inspection exercise the conclusions are necessarily tentative and are therefore summarised briefly here.

25. Most of the students were women in their late 20s and 30s and held posts of staff nurse seniority or above. Teaching staff were well qualified and together with staff from the local schools of nursing and visiting speakers provided the necessary range of subject expertise. They maintained good links with local health authorities and these opportunities for staff development are being taken. Accommodation was generally satisfactory. Clerical and technician support was limited.

26. Most of the teaching and learning seen was good, with much student participation. Efforts were made to draw on students' own experience in nursing, both in group work and assignments. Wastage was low and student enthusiasm for the courses high.

Hotel and Catering Courses

COURSES

27. A substantial number of hotel and catering employees have entered the industry after completing full-time or sandwich courses and there are, in consequence, comparatively few part-time advanced courses in hotel and

catering studies. For instance, 10 colleges in England and Wales offer degree courses in hotel and catering studies but only one of these is available to part-time students; at the time of the inspection only one college offered the BTEC higher national certificate course in hotel, catering and institutional management on a part-time basis and this was included in the survey. Nearly all advanced part-time students in hotel and catering follow a course for the professional qualification of the Hotel Catering and Institutional Management Association (HCIMA). This is offered at 19 colleges in England and Wales and consists of two parts; part A can only be taken by part-time study over two years and part B may be taken as a part-time course over three years, as a sandwich course over two years or as a one-year full-time course. The HCIMA course was inspected in six colleges.

STUDENTS

28. Between 1981 and 1984, 375 students enrolled on HCIMA courses at the six colleges visited. Over 90 per cent of these students held supervisory or management positions. Many of them had started in the industry as craftsmen and had taken catering craft qualifications. As a result, they entered part-time advanced courses when they were well-established in their profession; approximately 65 per cent were over 25 years of age; about 10 per cent were over 35; and some 10 per cent were aged 21 or under. The majority of students were public sector employees and were employed by the National Health Service or by local authorities. Generally, they received a greater degree of financial support from their employers than those students who worked for private firms or companies. In all colleges, at least 20 per cent of the students were attending college at their own expense. In two colleges, a small number were unemployed.

29. Only one-third of the students lived in the vicinity of the college they attended. At four of the six colleges visited, a substantial number of students travelled more than 30 miles to attend their course and in a few instances, students had to make journeys of between 60 and 100 miles to reach college.

30. Many students held relatively senior positions in their industry and commitments at work prevented some from attending college regularly. There is considerable mobility of personnel within the industry; some students receive promotion during their course and, as a result, they are unable to complete it. The wastage rate across the six colleges was high. An average of 40 per cent of the students failed to complete the course at the

college at which they started, but all colleges had enrolled some students who began the course at another establishment. In certain instances, students who have to leave a course continue it through correspondence tuition sponsored by the HCIMA.

STAFF

31. Most teachers held appropriate academic or professional qualifications and over 70 per cent were trained teachers; but fewer than 50 per cent had experience of working in the hotel and catering industry. Three colleges had organised staff training development programmes which specifically aimed to familiarise teachers with current industrial practice. One polytechnic was planning to provide its staff with short-term secondments to industry; six teachers had applied for secondment to industry through the HCIMA's scheme for providing industrial experience. In one of the six colleges visiting lecturers from industry were employed on a regular basis.

32. Technician support at all the colleges was adequate.

ACCOMMODATION AND EQUIPMENT

33. Much of the accommodation was purpose-built and most of the teaching took place in general-purpose classrooms which were generally satisfactory although some were unsuitable for particular purposes such as group work. The preparation facilities for gastronomy classes were excellent in all instances. In four of the six colleges, facilities for the teaching of computer studies were good; at the other two colleges they were acceptable. Two of the colleges had an excellent range of computer software, some of which had been designed by catering teachers.

TEACHING AND LEARNING

34. Most of the teaching seen was good, some was excellent and very little was poor. In the few instances of poor practice, classroom activity centred too much on the teacher, who tended to talk excessively, and insufficiently upon the students; in a few instances, students were subject to dictated notes and teaching and learning material which were not sufficiently relevant to the hotel and catering industry. Good teaching provided students with an appropriate range of learning activities including stimulating and well-illustrated lectures, supplemented by individual tutorial guidance, interesting case studies and group discussions. The good teacher encouraged the students to draw upon their own work experience in order to find solutions to problems or to enlarge their knowledge of various topics.

Assignments were carefully marked and the assessments included helpful feedback to the students about the strengths and weaknesses of their work. There was some excellent teaching on the legal aspects of the hotel and catering industry and this was supported by some admirably devised case studies. In one college the teaching of food and beverage management was particularly good and in two colleges the teaching of gastronomy was of a high standard. In all colleges, the staff provided students with well devised handouts and in three colleges these were used not merely to provide information but also to elicit response from the classes and stimulate discussion.

Science

35. The sciences have one of the oldest and most firmly established series of pathways for the part-time student in the FE system. In many respects it is a model of good progression and credit transfer arrangements which can be used by any student prepared to put in the effort to advance from non-advanced further education (NAFE) to advanced further education (AFE).

COURSES

36. About 30% (12,000) of those following courses of advanced further education in science do so on a part-time basis. There are four major subject areas in this group and courses are available at BTEC, degree and the degree equivalent, professional level. Courses in medical laboratory science, chemistry and the biological and physical sciences continue to be well supported with sufficient centres throughout the country to make access no problem. Such is not the case with physics. Only 12 centres now offer BTEC higher certificate courses in physics.

STUDENTS

37. An increasing proportion of students on BTEC higher certificate courses in science enter with GCE A-level qualifications. Those on part-time professional and degree courses usually enter via the BTEC higher certificate route. This has the disadvantage that students take an extra year of part-time study before their final examinations; it has the advantage of providing a valuable intermediate qualification. The majority of students undertake their advanced part-time course direct from school. Women are well represented in biology and medical laboratory science courses but less so in physical

science, metallurgy and chemical engineering courses. Most students are employed as technicians and receive generous support from their employers. Students travel an average of 20 miles each way to attend college. In one extreme case a student travelled 200 miles each way to attend in order to complete his course after a change of employment.

38. Part-time science courses attract students of good calibre who are generally highly motivated. In consequence wastage rates are low and examination pass rates are high. The poorest results recorded were in the BTEC higher certificate in applied biology and in the external examination for the Fellowship of the Institute of Medical Laboratory Science where the pass rate of about 50% in the colleges inspected compared with the equally poor overall national pass rate of 52%.

STAFF

39. The teachers are highly qualified and most have industrial experience but this is rarely recent. Research, consultancy work and involvement with professional institutions helps keep teachers, particularly those in the polytechnics, up-to-date in their subject. Few part-time teachers are employed except in the medical laboratory science area where the use of highly specialised teachers from laboratory medicine is extensive and generally satisfactory.

40. Technical support staff are also well qualified and many are graduates. The level of technican support at one technician per two full-time teaching staff on average was satisfactory; however, even at this level of staffing evening classes often proceeded without any technician support. Clerical support was often inadequate.

ACCOMMODATION AND EQUIPMENT

41. Most colleges had purpose-built accommodation for science which had been erected in the post-war period. Most laboratories were well maintained and equipped.

TEACHING AND LEARNING

42. The teaching was generally sound rather than inspiring but the students appeared generally content and felt that they were challenged sufficiently. Course content served the broad needs of employers while satisfying the students' wish to study their subject in depth with the object of proceeding to further study. Most courses provided a suitable balance

between lectures and practical work and students took a pride in their work which was reflected in the care and attention they paid to acquiring a good set of notes and writing up their practical work. Timetabled tutorials were rare but informal tutorials were often held to the students' advantage during practical sessions. Practical work was generally well planned and conscientiously carried out by students.

43. In general teachers assessed student work conscientiously and an assessment load of 15 assignments and/or tests per annum did not seriously interrupt the teaching programme. The 70 assessed assignments set on one two year, 10 unit BTEC higher certificate course were excessive. This frequency of assessment interrupted the teaching programme and subjected the part-time student to a great deal of unnecessary pressure. Student records were generally well maintained.

Engineering

COURSES

44. Of the 41,000 students following part-time advanced further education courses in engineering, 95% are on BTEC higher certificate/ diploma courses. The remaining 5% undertake either part-time degree courses or the degree equivalent course offered by the Council of Engineering Institutions. 77 BTEC higher certificate courses, six part-time degree courses and seven professional qualification courses of which two led to CEI Part II examination, were inspected. Of the 77 BTEC courses, 27 related to mechanical and production engineering, 25 to electrical and electronic engineering, nine to motor vehicle engineering, four to fabrication and welding, one to aeronautical, 10 to plant and refrigeration and one to general engineering. All the part-time courses inspected required students to attend college for at least one day each week and usually necessitated additional attendance for one or more evening sessions.

STUDENTS

45. The majority of the students began on the BTEC higher technician courses between the ages of 18 and 19 having already completed appropriate technician certificate courses as apprentices after leaving school at 16. The students on degree courses were all over 21 years of age. Most had progressed to their degree course through higher national certificate courses and thus had been continuously engaged in part-time education and

training since the age of 16; some older students were qualified technician engineers who had commenced their degree course after a break of several years in their education. There were very few female students on any courses.

46. Most BTEC higher technician course students were granted day-release by their employers to attend college. An increasing number of employers in the private sector of the engineering industry are unwilling to grant day-release from employment after their employees reach the age of 18. A very large number of part-time course students came from the public sector of employment which is usually willing to grant day-release because career progression is often dependent upon the acquisition of professional qualifications.

47. Most of the BTEC higher technician course students lived reasonably near the college they attended. The part-time degree courses were provided on a regional rather than local basis and some students had to travel more than 60 miles to college.

48. The BTEC higher technician courses are organised in programmes of modules which may be covered in a minimum of two years but may be studied over a longer period. About 50% of higher technician course students qualify for an HNC in two years. The wastage rate on part-time degree courses is higher than that on the BTEC courses. This is partly because some students find it difficult to sustain their efforts for the four years of their course, and also because they may undergo changes in their domestic and employment circumstances.

STAFF

49. In general, the teachers were well qualified academically for the work they undertook. In many establishments, and particularly those which were not polytechnics, it was not unusual for several teachers to have served in the same department for more than 15 years and for them to have had no recent industrial experience. It has not proved easy to recruit young staff from industry to full-time teaching posts. Few part-time teachers from industry were employed on the courses inspected. Although there is a need for teachers to familiarise themselves with current industrial practice, the majority have been successful in learning about computing and the application of micro-technology in engineering.

ACCOMMODATION AND EQUIPMENT

50. Many of the general purpose classrooms in which engineering was also taught were bare and dispiriting in their appearance and did not provide a congenial environment for learning. The general layout of some rooms did not facilitate discussion or group work and some lacked proper facilities for demonstration. Since the introduction, within the curriculum, of work in the new technologies, some laboratories had become outmoded and were seldom used. However, specialist workshops were mostly purpose-built and adequate in quality

51. Laboratory equipment was generally sufficient in quantity although many items had become obsolete. Some colleges have acquired Computer Numerical Controlled machine tools and Computer Aided Design equipment through funding under the Department of Industry machine tools initiative or the Information Technology initiative funded through the National Advisory Board for Local Authority Higher Education. There were ample provision of micro-computers for engineering students.

TEACHING AND LEARNING

52. Classroom teaching was generally based on the lecture and although some examples of excellent practice were encountered, too often students were insufficiently engaged in activities which enabled them to discover knowledge and information for themselves; they were, for instance, provided with too many detailed hand-outs. However, many students kept careful notes which they valued. The good teacher encouraged students to draw upon their own experiences at work and they were more ready to do this when they shared the same industrial background or came from the same firm.

53. Students on part-time degree courses were permitted more opportunity for managing their own learning and engaging in individual learning assignments. Students who had progressed to their degree course from a higher national certificate course said that they found the pace of learning more purposeful on the degree course and they welcomed the greater variety of learning activities which it provided, including design studies, small group working, case studies and projects.

54. There was little laboratory work. On BTEC courses laboratory work usually takes place towards the end of a session and now occupies less than

half the time it did on the former Joint Committee Higher National Certificate courses.

55. In general, the pattern and load of assessment were acceptable to both staff and students. Student records were detailed, thorough and well-maintained.

Appendix 2

List of courses inspected

Business Studies

BTEC Higher National Certificate in Business Studies
BTEC Higher National Certificate in Public Administration
BA in Business Studies
Institute of Bankers
Chartered Association of Certified Accountants
Institute of Cost and Management Accountants
Institute of Chartered Secretaries and Administrators
Chartered Insurance Institute
Institute of Marketing
Institute of Legal Executives

Construction

BTEC Higher National Certificate in Building Studies
BTEC Higher National Certificate in Civil Engineering Studies
BTEC Higher National Certificate in Valuation and Property Management
BTEC Higher National Certificate in Surveying, Cartography and Planning
BTEC Higher National Certificate in Building Engineering Services
BTEC Higher National Certificate in Town and Country Planning
BSc Surveying
    (Building Surveying)
    (Estate Management)
    (Quantity Surveying)
BEng/BEng Honours Environmental Engineering
BSc Building
BEng Civil Engineering
BA Town Planning
Royal Institution of Chartered Surveyors
Royal Institute of British Architects
Institute of Housing
Chartered Institute of Building
Institution of Structural Engineers
Polytechnic Certificate in Building Studies

Engineering

BTEC Higher National Certificate in General Engineering
BTEC Higher National Certificate/Diploma in Electrical, Electronic and Telecommunications Engineering
BTEC Higher National Certificate Plant/Instrumentation and Control/Refrigeration Engineering
BTEC Higher National Certificate/Diploma, Mechanical and Production Engineering
BTEC High National Certificate Fabrication and Welding Engineering
BTEC Higher National Certificate Motor Vehicle Engineering
BTEC Higher National Certificate Motor Vehicle Engineering Management
BTEC Higher National Certificate Aerospace Studies
BEng Electronic Engineering
BEng/BEng Honours Electrical and Electronic Engineering
BSc Mechanical Engineering
BSc/BSc Honours Engineering
Institute of Quality Assurance
Institute of Road Transport Engineers
Institute of the Motor Industry
Council of Engineering Institutions

Health and Social Services

Diploma in Nursing
BA Honours Social Dimensions of Health

Hotel and Catering

Professional qualification of the Hotel, Catering and Institutional Management Association Diploma
BTEC Higher National Certificate in Hotel, Catering and Institutional Management

Mathematics, Statistics and Computing

BTEC Higher National Certificate/Diploma in Mathematics, Statistics and Computing
BTEC Higher National Certificate/Diploma in Computer Studies
British Computer Society Professional Examination (Parts I & II)
Polytechnic Certificate/Diploma in Computer Studies
BSc/BSc Honours Computer Studies
BSc Applicable Mathematics

Science

BTEC Higher National Certificate in Biology
Graduate Membership of the Institute of Biology
BSc/BSc (Hons) Applied Biology
BTEC Higher National Certificate in Physical Science (Chemistry)
Licentiateship of the Royal Society of Chemistry
Graduateship of the Royal Society of Chemistry
BSc Applied Chemistry
BTEC Higher National Certificate in Laboratory Science and Administration
BSc/BSc (Hons) Combined Sciences
BTEC Higher National Certificate in Chemical Engineering
BTEC Higher National Certificate in Physical Sciences (Instrumentation and Computing)
BTEC Higher National Certificate in Physical Sciences (Surface Coatings)
BTEC Higher National Certificate in Medical Laboratory Science
Fellowship of the Institute of Medical Laboratory Sciences
BTEC Higher National Certificate in Medical Physics and Physiological Measurement
BTEC Higher National Certificate in Physical Science (Physics)
BSc Physics
Diploma in Electron Microscopy
Diploma in Chemical Pollution Monitoring
BTEC Higher National Certificate in Metallurgical Studies
BSc/BSc (Hons) Metallurgy and Micro-structural Engineering

Appendix 3

Figure 1 Advanced course enrolments in further education establishments by mode of attendance and subject group of study. England and Wales 1983

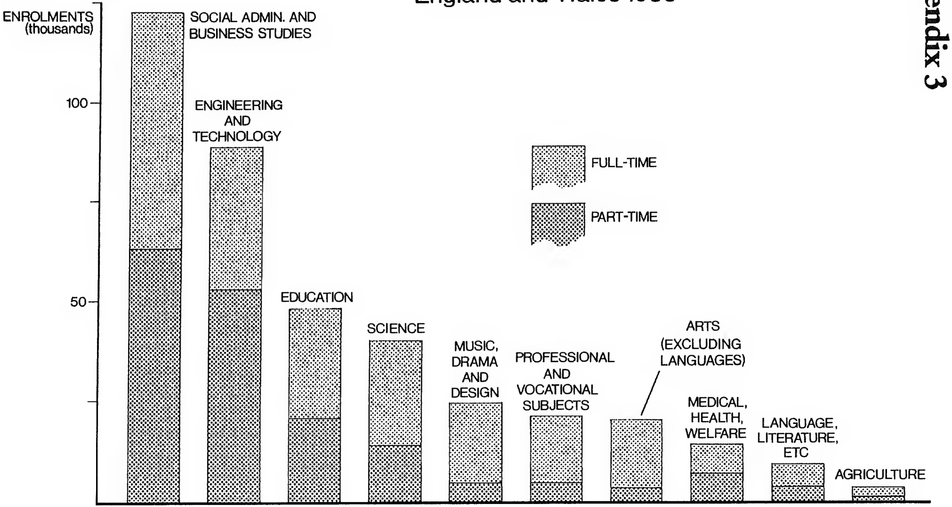
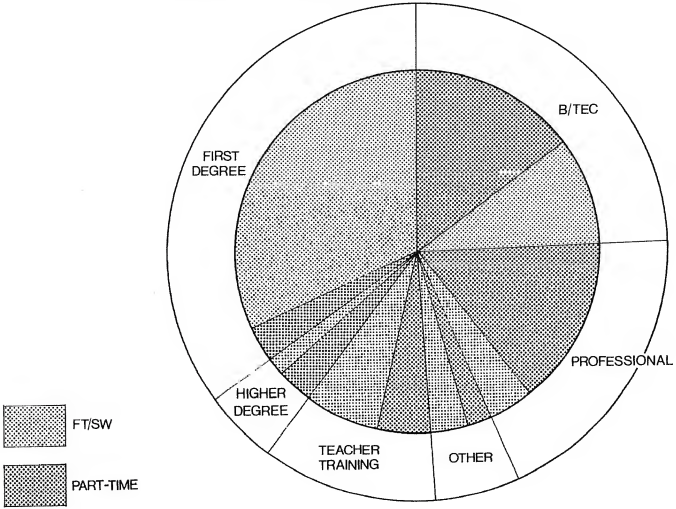


Figure 2 Advanced further education course enrolments by mode of attendance and qualification aim. England and Wales 1983



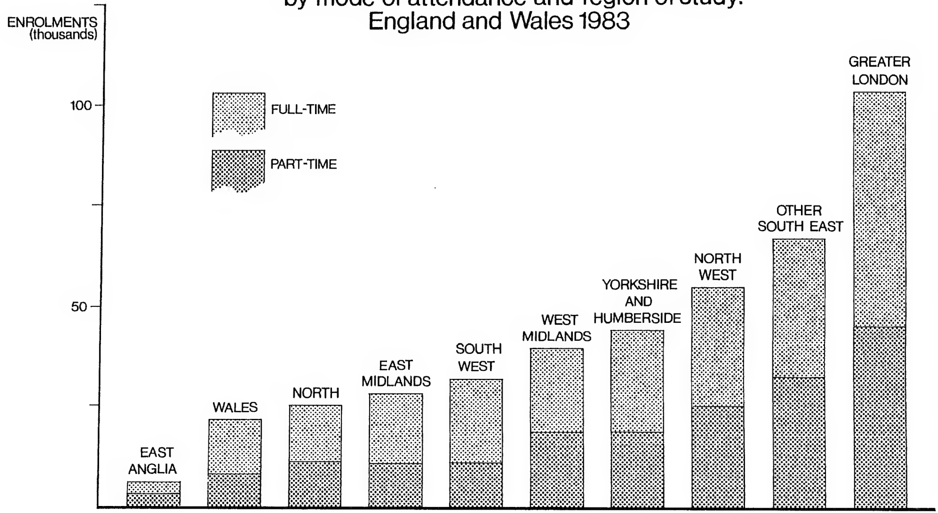


Figure 3 Advanced course enrolments in further education establishments by mode of attendance and region of study. England and Wales 1983

Figure 4 Comparison of sample colleges with all colleges